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National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
SOUTHWEST FISHERIES CENTER
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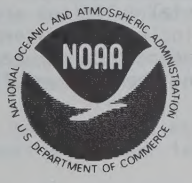
FISHING INFORMATION

JULY 1975, No. 7



EDITOR: JAMES A. RENNER

B. J. Rothschild, Director, SOUTHWEST FISHERIES CENTER
I. Barrett, Deputy Director
R. Shomura, Director, Honolulu Laboratory
N. Abramson, Director, Tiburon Laboratory

PREFACE

This publication, Fishing Information, appears monthly and contains 1) fishery advisory information, 2) a narrative description of pertinent surface temperature conditions, 3) charts of winds and pressures for the eastern North Pacific, 4) charts of sea surface temperature for the North Pacific and eastern tropical Pacific, and 5) charts of subsurface temperature structure in the eastern North Pacific.

A supplement to Fishing Information appears at 15-day intervals throughout the year. This is a chart of sea surface temperature (contoured at 2°F (1°C) intervals) from Baja California to Vancouver Island out to about 135°W. Special bulletins are published in conjunction with the 15-day sea surface temperature charts which include short-term projections of albacore distribution and locations of productive fishing areas, information on oceanographic and atmospheric conditions, and other information as is appropriate during the albacore fishing season.

The Secretary of Commerce has determined that the publication of this periodical is necessary in the transaction of the public business required by law of this Department. Use of funds for printing this publication approved by the Office of Management and Budget, August 20, 1973; this approval expires June 1976.

Submitted for publication - August 18, 1975

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ENVIRONMENTAL CHARTS ANALYZED BY:

F. Miller (Figures 8 and 9)
J. Renner (Figures 1,2,3,4,5,6,7,11 and 15-day Supplement)
T. Saur (Figure 10)

TECHNICAL EDITOR:
R. Allen
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R. Allen, H. Orr

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Expendable bathythermograph and salinity observations are made by the mates and engineers of the Californian and Hawaiian Queen of Matson Navigation Co. The data are processed under supervision of D.R. McLain at the NMFS Pacific Environmental Group, Monterey, using computer facilities of the Fleet Numerical Weather Center. The project is partially supported by the National Science Foundation and the Office of Naval Research under Government NAonr-9-74.

Sea Surface Temperature and Environmental Conditions

N. CLARK AND F. MILLER

Eastern North Pacific

Seasonal warming continued to cause sea surface temperatures to increase over the entire eastern North Pacific during July. The area of greatest warming occurred in the central eastern North Pacific where temperatures increased by 5 to 7°F (2.8 to 3.9°C) between June and July. The sea surface temperature anomaly pattern for July is similar to that for June with a large area of 1 to 3°F (0.6 to 1.7°C) above-normal temperatures extending across the central eastern North Pacific and 2 to 4°F (1.1 to 2.2°C) below-normal temperatures in a region between 35°N and the Aleutian Islands, the Gulf of Alaska, a 300 mile-wide band offshore the central and southern California coasts and a large region extending westward from Baja California to the Hawaiian Islands. The central region of above-normal temperatures expanded during July and now stretches across the eastern North Pacific from 180° to the Oregon and northern California coastlines.

Sea-level pressures were below normal over most of the eastern North Pacific during July, resulting in a weakened high pressure cell that was centered near 35°N and 150°W. Slightly above-normal pressures along the coast of North America, coupled with an intense thermal low over the western United States, caused strong northwesterly winds off the California and Baja California coasts which maintained strong upwelling in these areas. Coastal upwelling decreased off Oregon and northern California due to weaker north-to-northwesterly winds.

Western North Pacific

The large area of relatively cool water in the central portion of the western North Pacific that began forming in May became colder during July, with negative departures from normal increasing from 1 to 3°F (0.6 to 1.7°C) to 2 to 5°F (1.1 to 2.8°C) below-normal values. The sea surface temperature anomaly pattern for July also shows below-normal temperatures east of Japan and in an area between 20°N to 35°N and 140°E to 160°E where temperatures that were 1 to 5°F (0.6 to 2.8°C) above normal dropped to 1 to 2°F (0.6 to 1.1°C) below-normal.

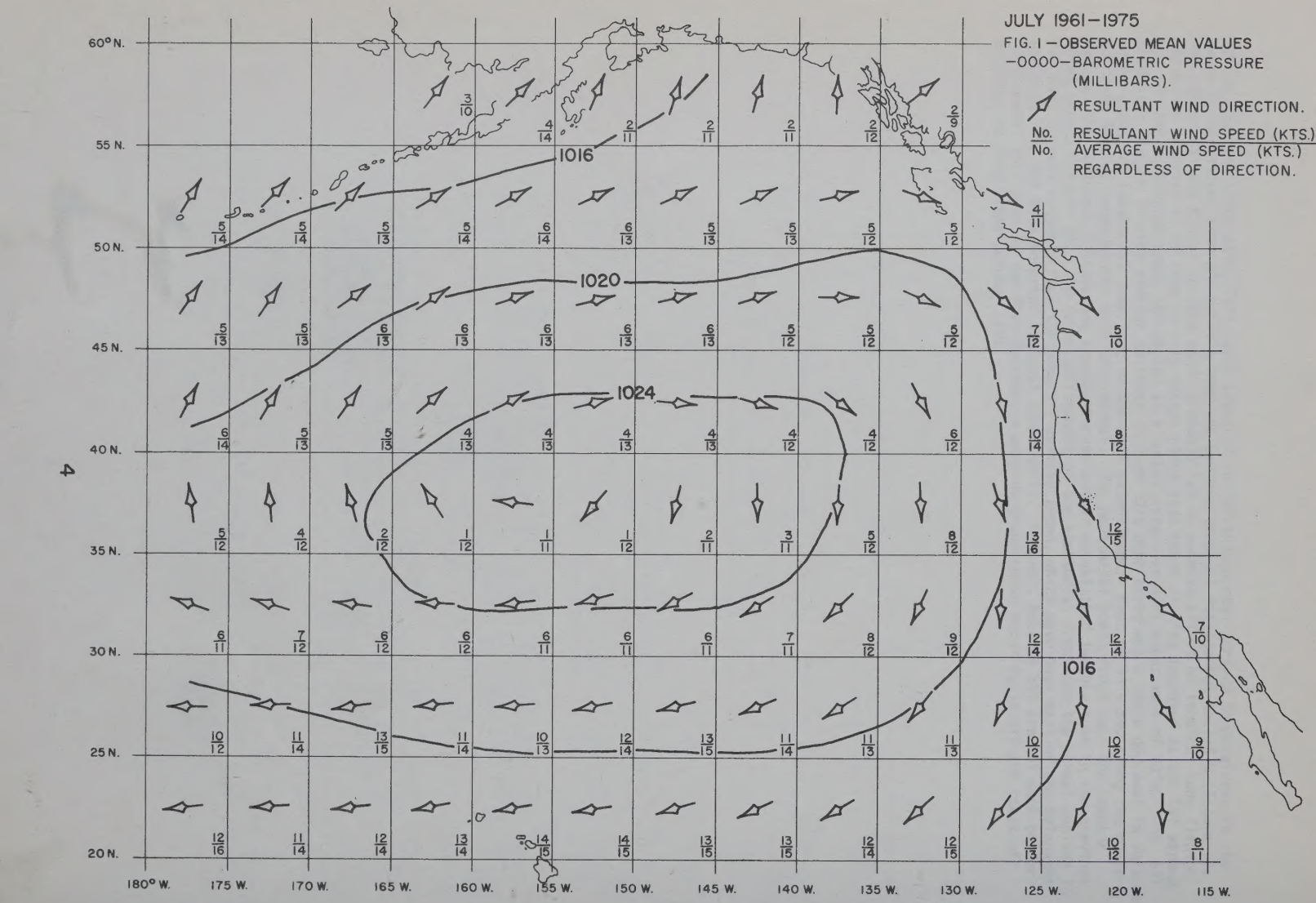
Above-normal sea surface temperature values of 1 to 3°F (0.6 to 1.7°C) persisted from June through July in the region from 20°N to 35°N and 125°E to 140°E and also in a 300-mile-wide band extending from about 250 miles east of Japan northward towards the Kuril Islands and the Kamchatka Peninsula.

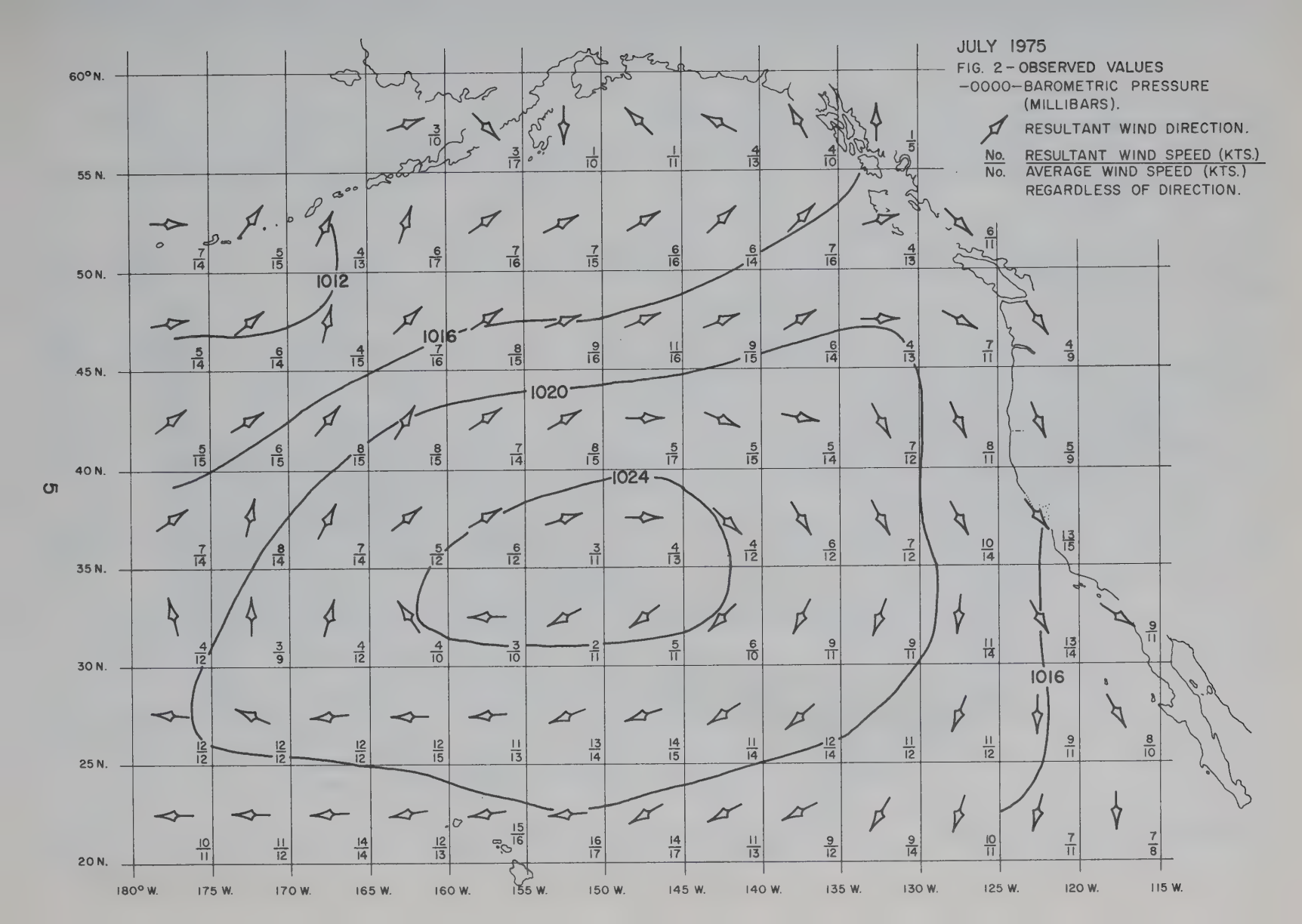
Eastern Tropical Pacific

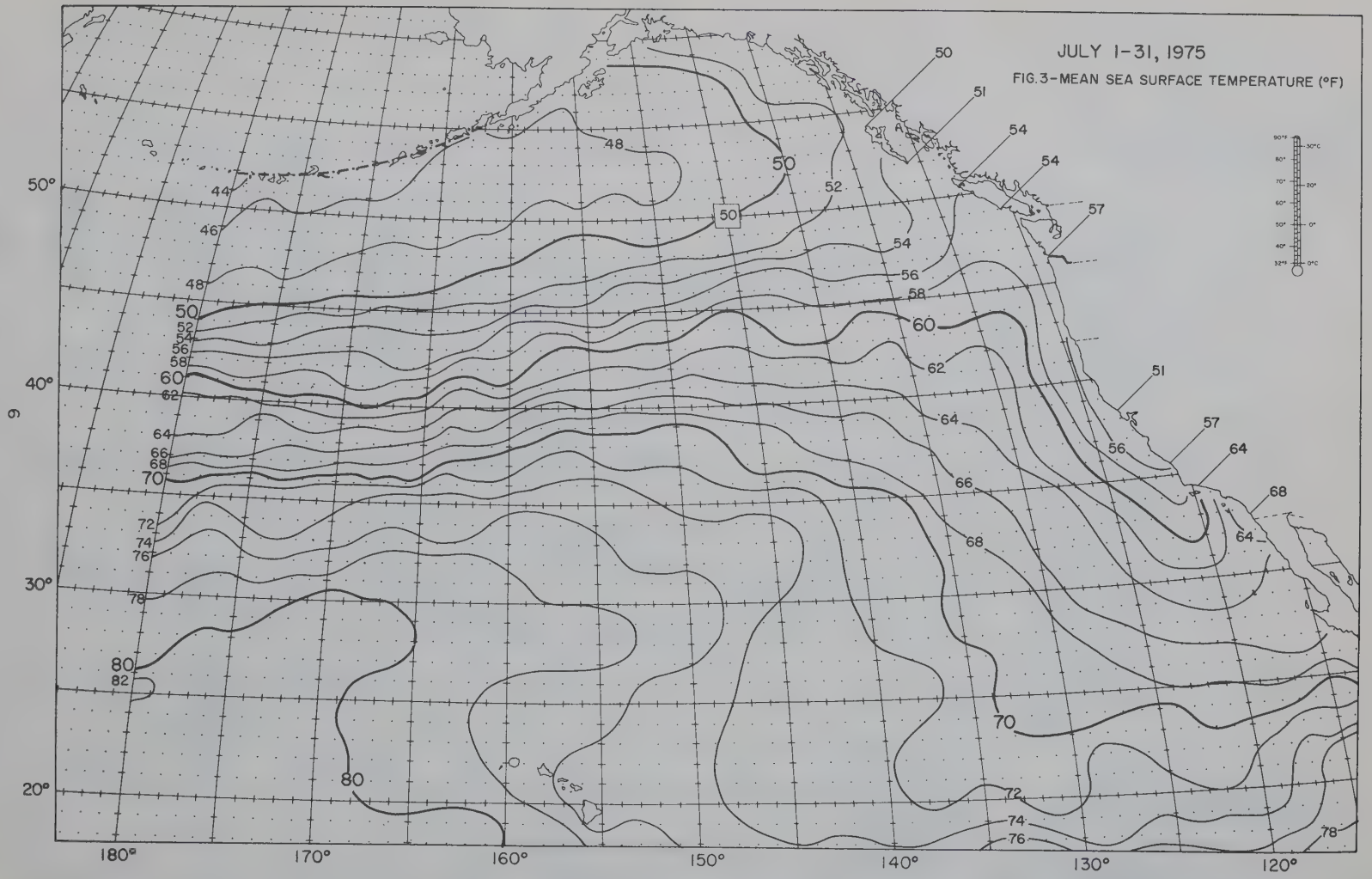
From June through July of each year, sea surface temperatures (SST) normally decrease 2 to 3°F (1.1 to 1.7°C) in the Peru Current north of 20°S and along the equator out to 115°W. Elsewhere in the southern hemisphere SST normally cool less than 2°F. In the northern hemisphere seasonal warming takes place at the surface in most areas with a maximum increase of 2°F in July along the southwest coast of Baja California from 20°N to 25°N. Some slight cooling normally takes place between 90°W and 100°W where southerly surface winds associated with tropical storm development intensifies ocean mixing.

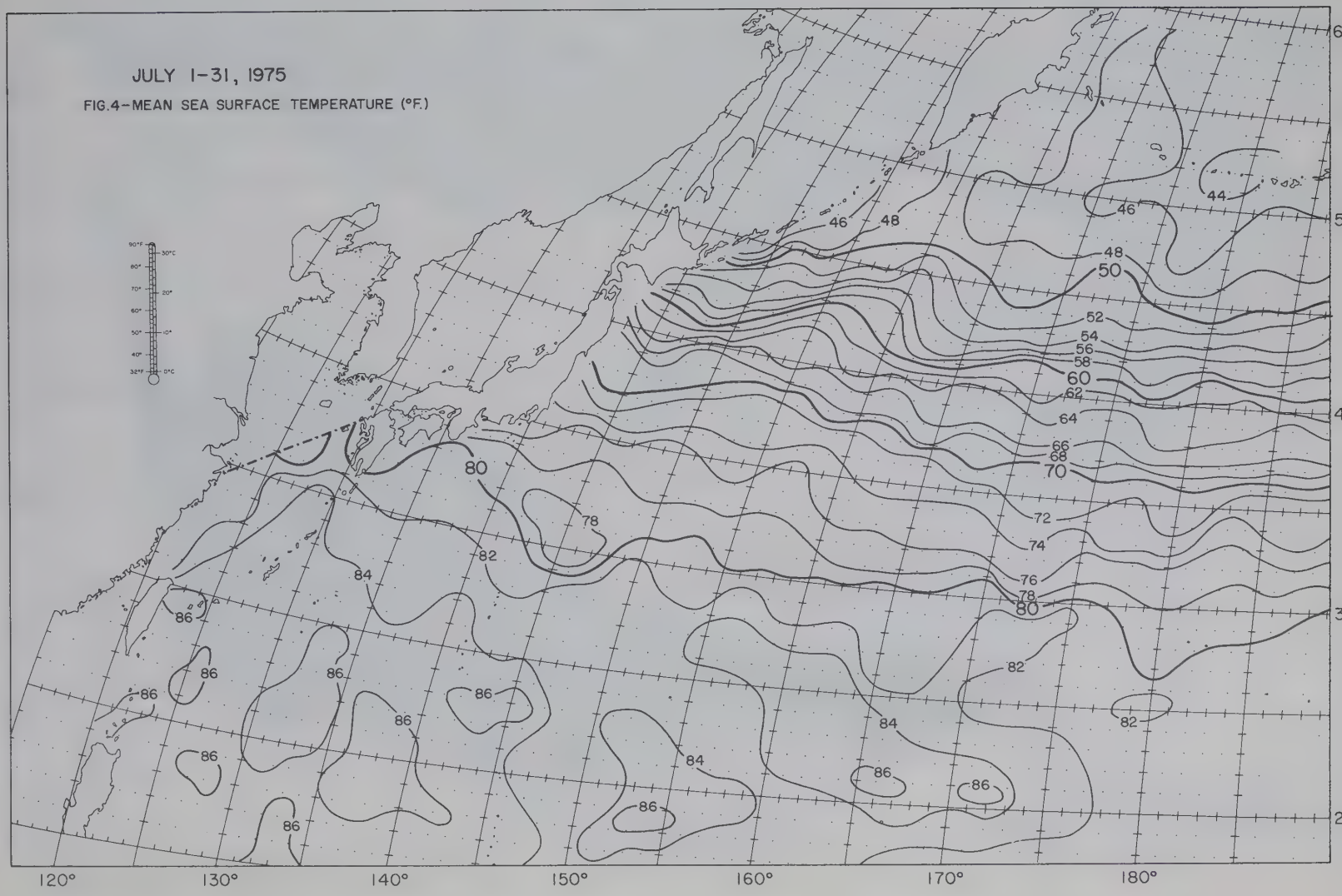
During July 1975, the SST south and west of Baja which have been 2°F to 4°F (1.1 to 2.2°C) below normal for many months, have begun to warm up (Figures 8 and 9). Increased tropical storm activity (four tropical storms formed south of Mexico and moved northwest through the fishing grounds in July) between 100°W and 110°W accounted for some of the warming south of Baja in July. The tropical storms developed between 10°N and 15°N to the east of 110°W where SST had warmed to as much as 4°F (2.2°C) above normal in late June. Extensive cloud cover and high winds south

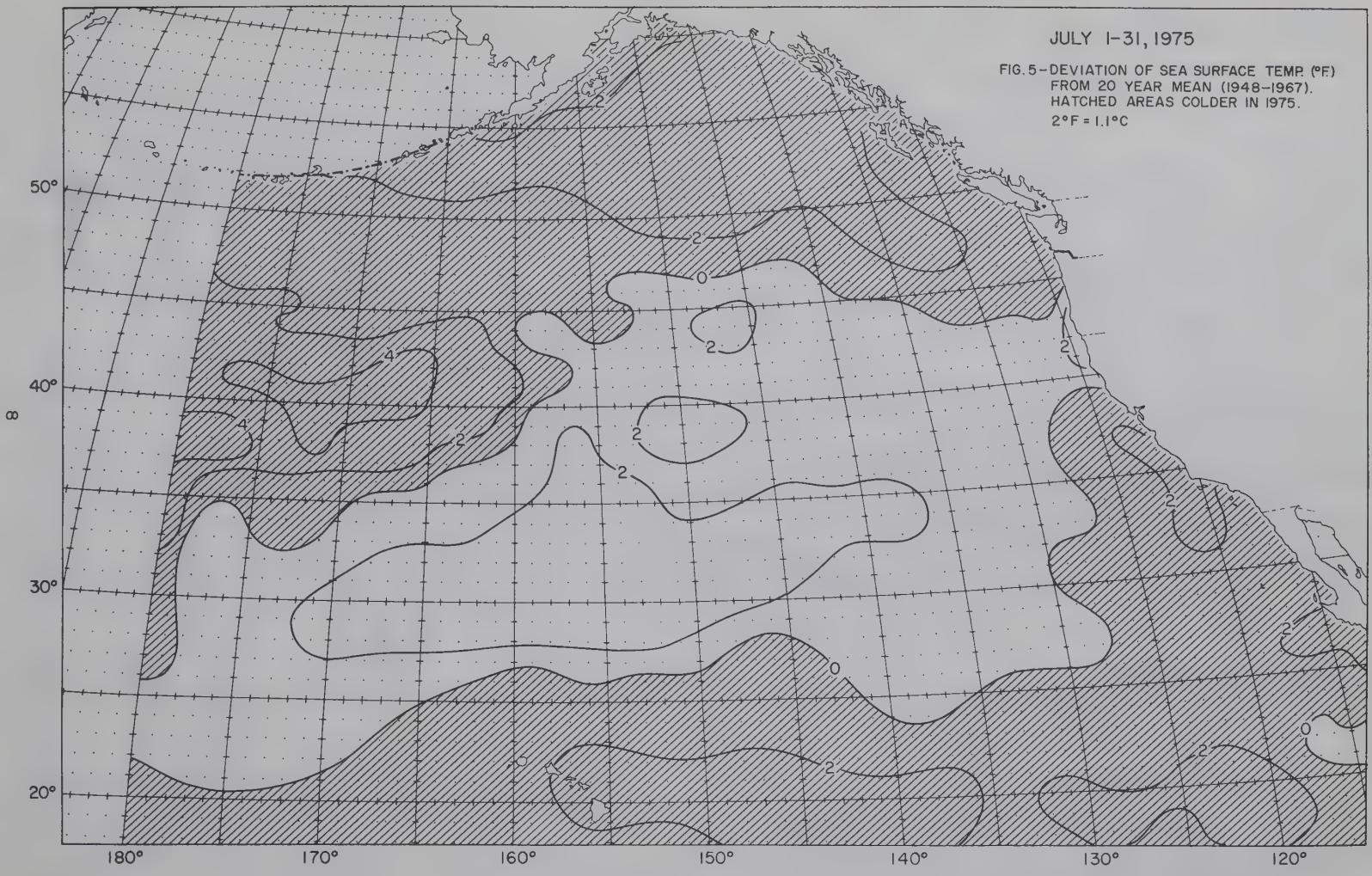
of the tropical storm paths left large areas of cooler-than-normal surface temperatures in the wakes of the storms from 5°N to 15°N over the eastern tropical Pacific out to 135°W (Figure 9). The cooler SST and higher surface winds probably had an adverse affect on tropical tuna fishing which was reported to be slow in July except along Baja where fishing improved as the SST warmed up. In the equatorial area, SST cooled at a normal rate over most areas west of 90°W. The SST anomalies (Figure 9) were similar to those in June 1975 when there was a sharp decrease in surface temperatures as equatorial upwelling became well established. East of 90°W and along the coast of South America temperatures were near normal. The equatorial ocean front near the equator between the Galapagos Islands and Ecuador became better established in July than in the previous three months (Figure 8). The re-establishement of the equatorial front and the normal cooling in the Peru Current suggests that the abnormal warming trend, which developed east of the Galapagos early in 1975 has been reversed at least temporarily. However, because SST are not much colder than normal this year in the Peru Current, a warming trend could occur again off the coast of Ecuador and Peru after October 1975.

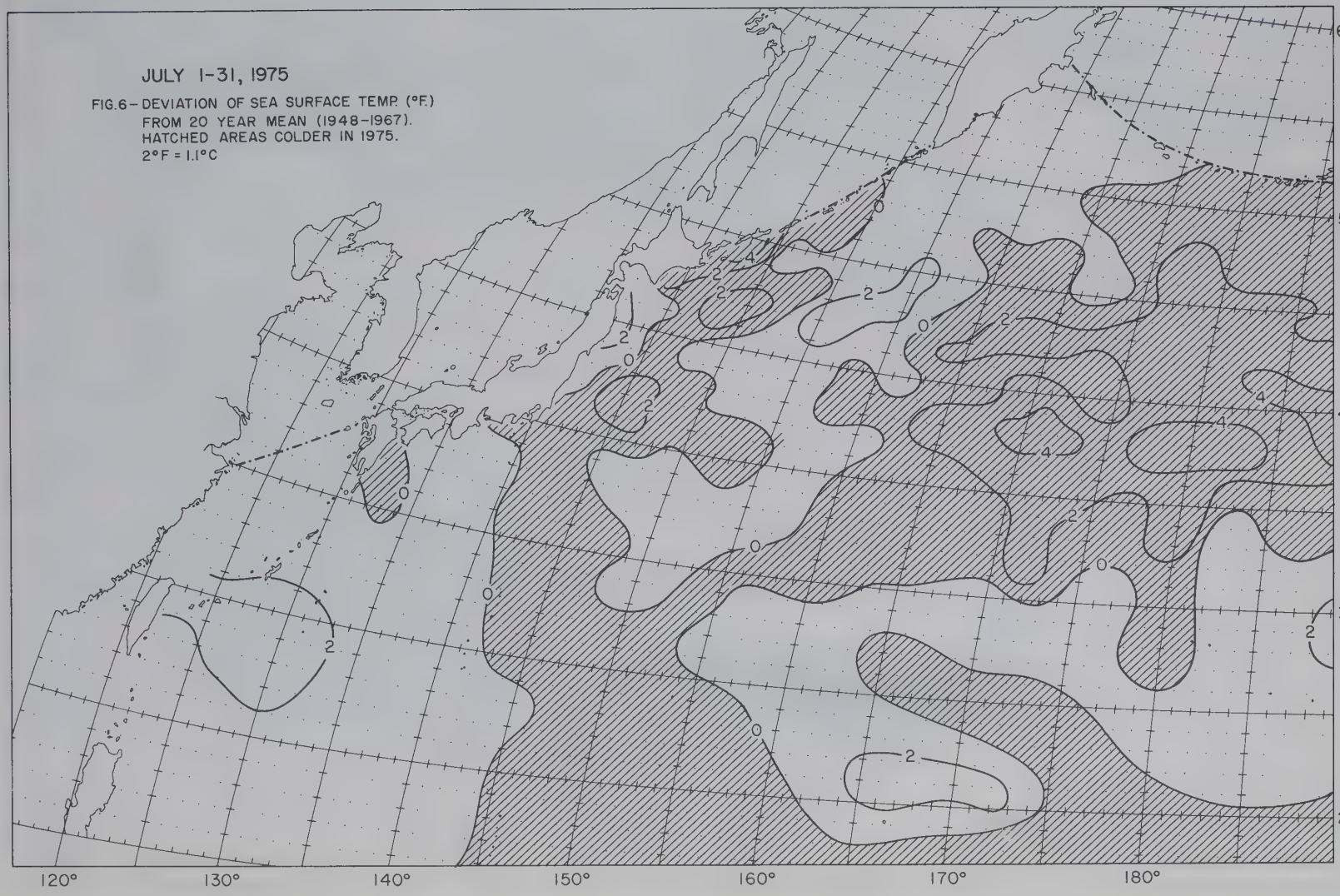

JULY 1961–1975
FIG. 1 – OBSERVED MEAN VALUES
–0000– BAROMETRIC PRESSURE (MILLIBARS).
RESULTANT WIND DIRECTION.
No. RESULTANT WIND SPEED (KTS.)
No. AVERAGE WIND SPEED (KTS.) REGARDLESS OF DIRECTION.
1016
1020
1024
1016
60° N.
55 N.
50 N.
45 N.
40 N.
35 N.
30 N.
25 N.
20 N.
180° W.
175 W.
170 W.
165 W.
160 W.
155 W.
150 W.
145 W.
140 W.
135 W.
130 W.
125 W.
120 W.
115 W.

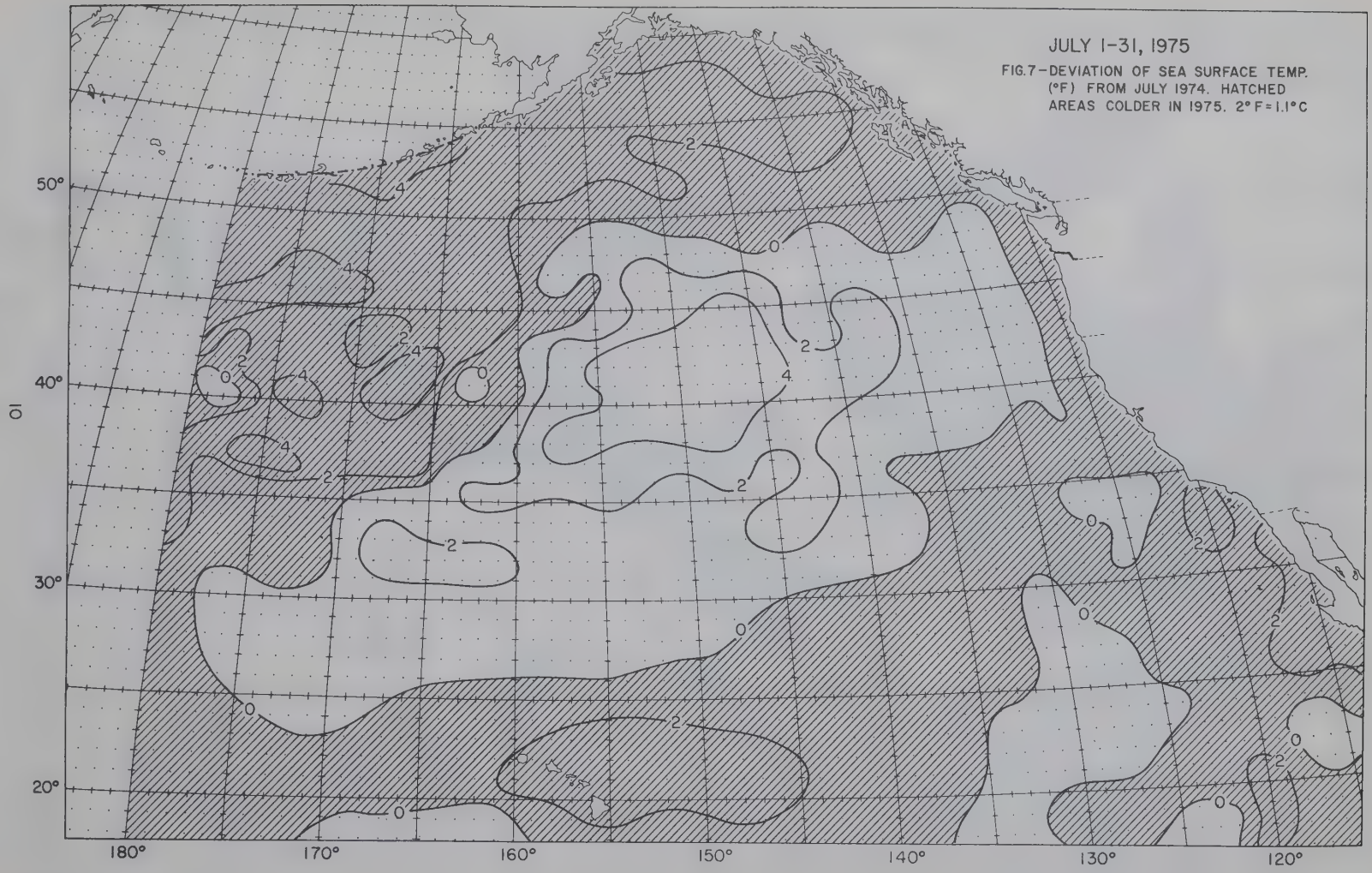

JULY 1975
FIG. 2 - OBSERVED VALUES
-0000- BAROMETRIC PRESSURE (MILLIBARS).
RESULTANT WIND DIRECTION.
No. RESULTANT WIND SPEED (KTS.)
No. AVERAGE WIND SPEED (KTS.) REGARDLESS OF DIRECTION.
1012
1016
1020
1024
1016
60° N.
55 N.
50 N.
45 N.
40 N.
35 N.
30 N.
25 N.
20 N.
180° W.
175 W.
170 W.
165 W.
160 W.
155 W.
150 W.
145 W.
140 W.
135 W.
130 W.
125 W.
120 W.
115 W.

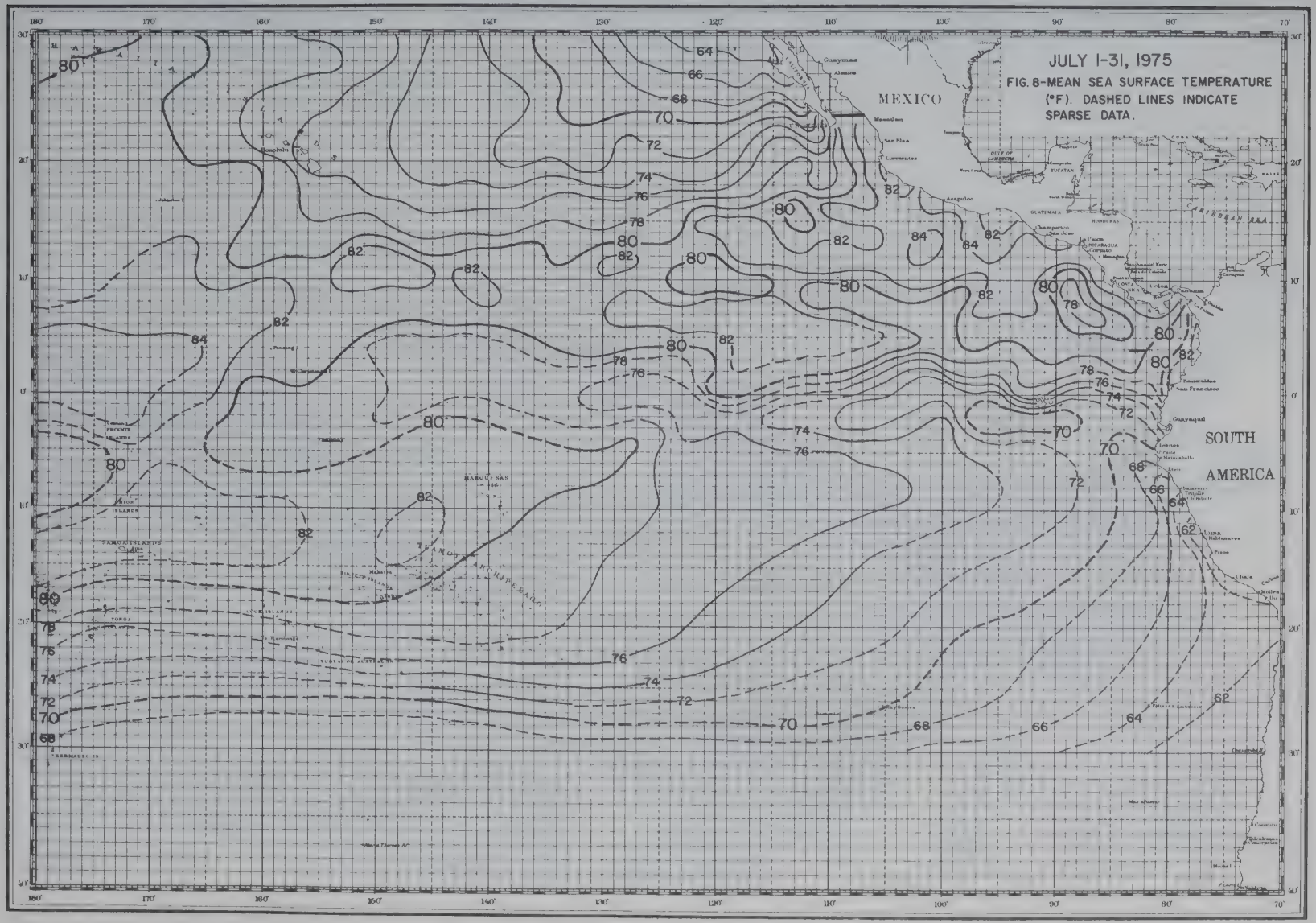

JULY 1-31, 1975
FIG.3-MEAN SEA SURFACE TEMPERATURE (°F)
50°
40°
30°
20°
180°
170°
160°
150°
140°
130°
120°


JULY 1-31, 1975
FIG.4-MEAN SEA SURFACE TEMPERATURE (°F.)
90°F
80°
70°
60°
50°
40°
32°F
30°C
20°
10°
0°C
44
46
48
50
52
54
56
58
60
62
64
66
68
70
72
74
76
78
80
82
84
86
60°
50°
40°
30°
20°
120°
130°
140°
150°
160°
170°
180°


JULY 1-31, 1975
FIG. 5 - DEVIATION OF SEA SURFACE TEMP (°F) FROM 20 YEAR MEAN (1948-1967). HATCHED AREAS COLDER IN 1975.
2°F = 1.1°C
50°
40°
30°
20°
180°
170°
160°
150°
140°
130°
120°
4
2
0
2
4
2
2
2
2
2
2
0
2
2
0
2


JULY 1-31, 1975
FIG.6 – DEVIATION OF SEA SURFACE TEMP. (°F.)
FROM 20 YEAR MEAN (1948-1967).
HATCHED AREAS COLDER IN 1975.
2°F = 1.1°C
60°
50°
40°
30°
20°
120°
130°
140°
150°
160°
170°
180°


JULY 1-31, 1975
FIG.7-DEVIATION OF SEA SURFACE TEMP. (°F) FROM JULY 1974. HATCHED AREAS COLDER IN 1975. 2°F=1.1°C
50°
40°
30°
20°
180°
170°
160°
150°
140°
130°
120°
10


JULY 1-31, 1975
FIG. 8-MEAN SEA SURFACE TEMPERATURE (°F). DASHED LINES INDICATE SPARSE DATA.
MEXICO
SOUTH AMERICA
CARIBBEAN SEA
GUATEMALA
HONDURAS
NICARAGUA
COSTA RICA
PANAMA
TUAMOTU ARCHIPELAGO
MARQUESAS
SAMOA ISLANDS
PHOENIX ISLANDS
TOKELAU ISLANDS
TUBUAI ISLANDS
BERMUDA IS.
180°
170°
160°
150°
140°
130°
120°
110°
100°
90°
80°
70°
30°
20°
10°
0°
30°

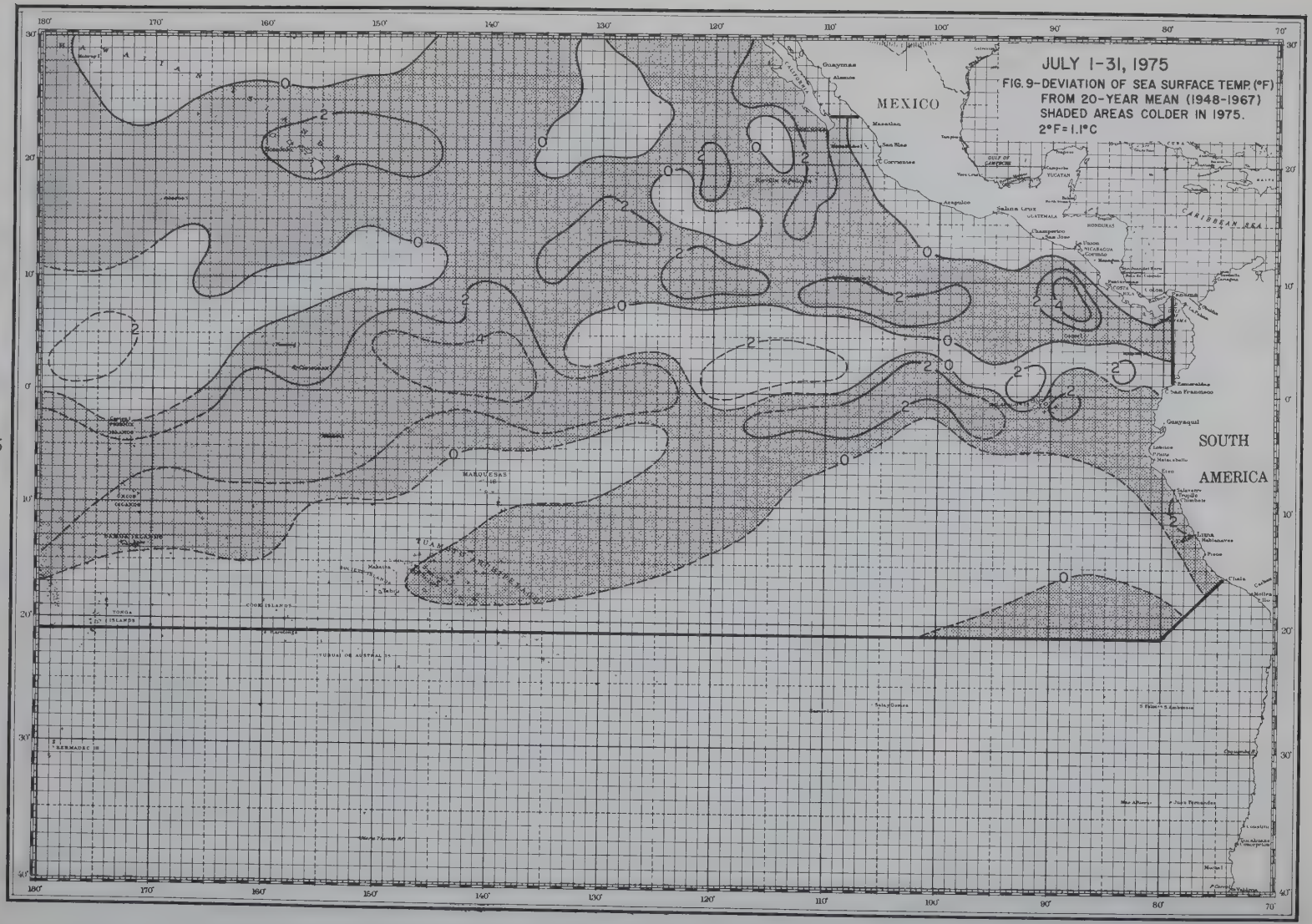
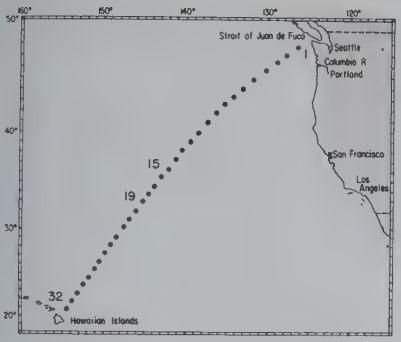
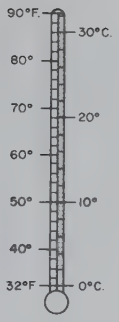

JULY 1-31, 1975
FIG. 9-DEVIATION OF SEA SURFACE TEMP. (°F)
FROM 20-YEAR MEAN (1948-1967)
SHADED AREAS COLDER IN 1975.
2°F = 1.1°C
MEXICO
SOUTH
AMERICA
CARIBBEAN SEA
GUATEMALA
HONDURAS
NICARAGUA
COSTA RICA
PANAMA
COLOMBIA
ECUADOR
PERU
CHILE
MARQUESAS
TUAMOTU ARCHIPELAGO
COOK ISLANDS
TONGA
TUBUAI OR AUSTRAL IS.
BERMUDA
Guaymas
Mazatlan
San Blas
Acapulco
Salina Cruz
Champerico
San Jose
Corinto
Managua
Cristobal
Balboa
Esmeraldas
San Francisco
Guayaquil
Salaverry
Trujillo
Chimbote
Lima
Callao
Pisco
Iquique
Antofagasta
Valparaiso
Talcahuano
Juan Fernandez
Easter I.
Salas y Gomez
Tahiti
Rapa
Raivavae
Rurutu
Rimatara
Rurutu
Mangareva
Pitcairn I.
Henderson I.
Oeno I.
Ducie I.
Easter I.
Juan Fernandez

FIGURE 10





HILO — SEATTLE

(Makapuu Pt. — St. of Juan de Fuca)

JUNE 30 – JULY 6, 1975

CALIFORNIAN

VOYAGE 259

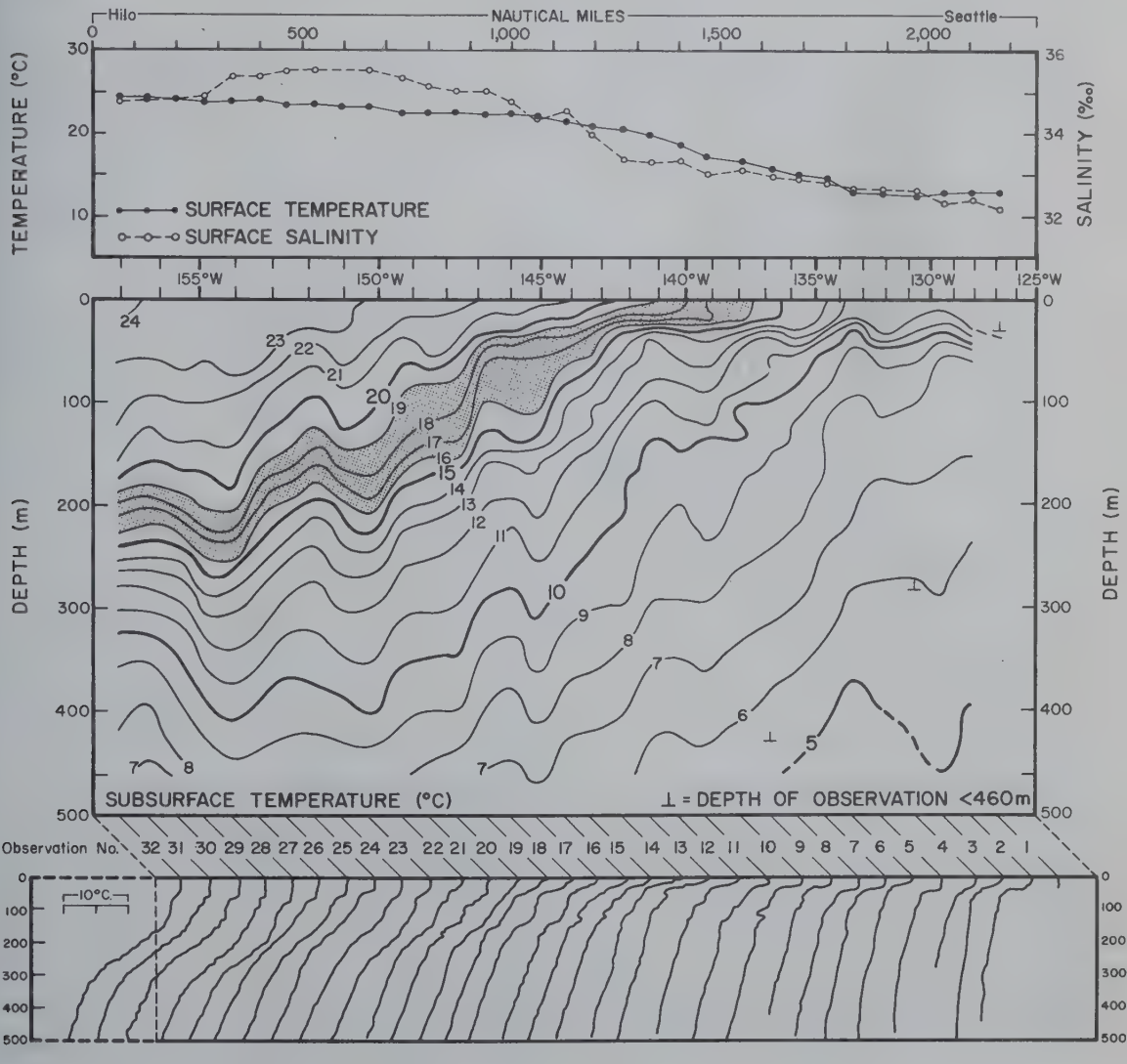
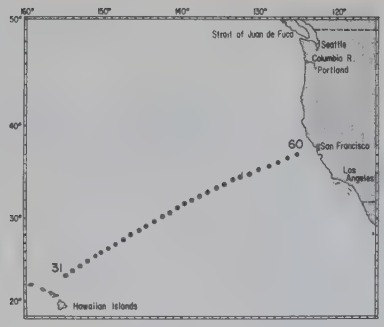
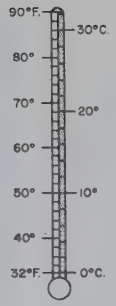


FIGURE 11



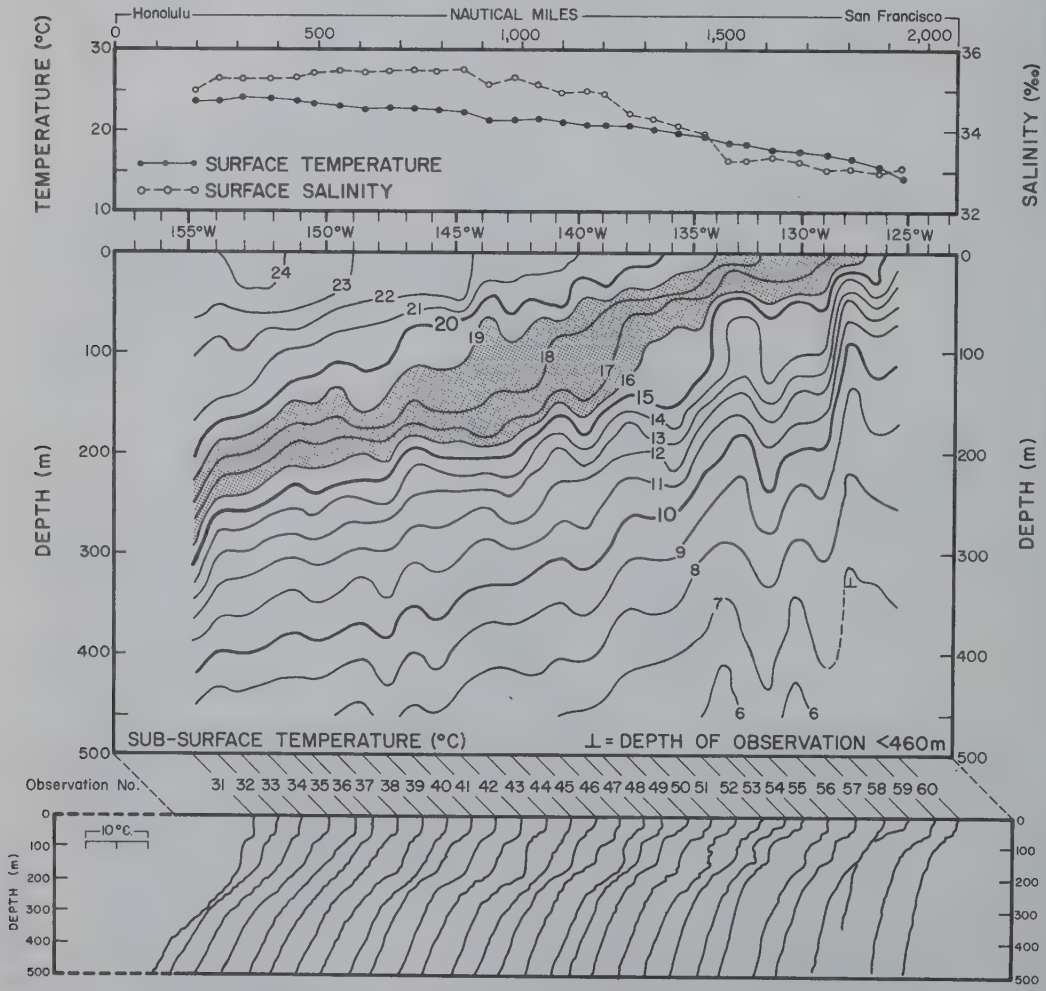


HONOLULU – SAN FRANCISCO

JULY 10–15, 1975

HAWAIIAN QUEEN

VOYAGE 160



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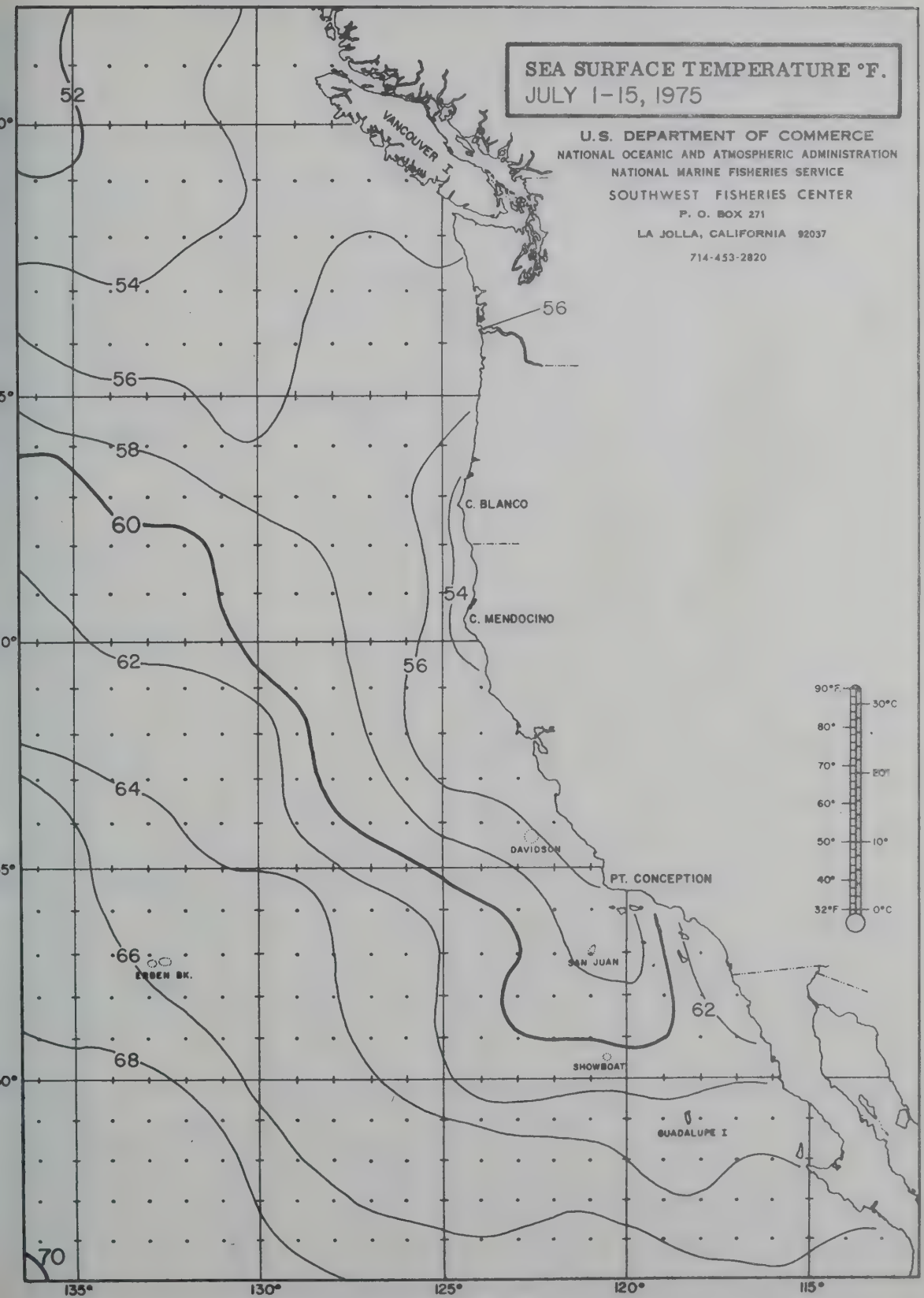
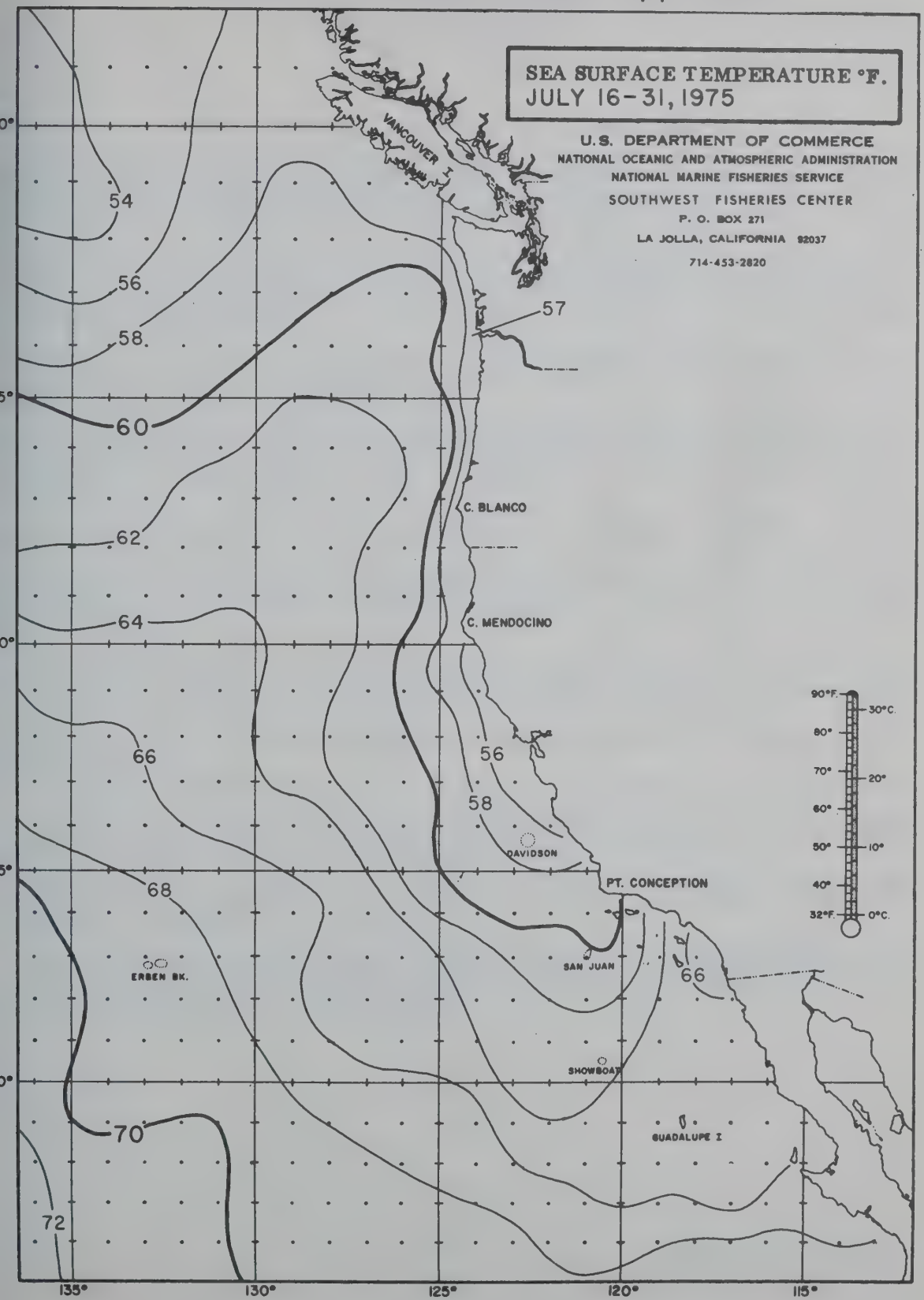


FISHING INFORMATION – supplement



UNITED STATES DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL MARINE FISHERIES SERVICE
Southwest Fisheries Center
La Jolla, California 92038

BULLETIN NO. 75-2

RESEARCH AND CHARTERED VESSELS CONTINUE OFFSHORE ALBACORE STUDIES

For most of the past 3 weeks the boats chartered to the American Fishermen's Research Foundation (AFRF) worked gether from northern Baja California to Ft.Bragg between 132-138°W longitude. Best catches were made during the st week of June in an area 550-600 miles offshore between Point Sur and Ft. Bragg in 62-65°F (16.7-18.3°C) sea rface temperature waters. Highest catch for two jigboats and the baitboat was 321 fish on June 28. The third gboat on charter to the AFRF returned to port in mid-June because of mechanical problems.

Baitfishing was poor for the chartered baitboat while jig catches, although small for most of June, increased ring June 26-29. Total daily catches were 7-24 fish from June 11-19 while the boats fished south of Point Sur 64-66°F (17.8-18.9°C) sea surface temperature waters. From June 18-29 the chartered boats fished north of Point and total catches increased to 13-321 fish per day. The average fish size from north and south of Point Sur was 2 pounds with a range of 5-27 pounds.

The AFRF chartered boats separated into two groups on June 29. One jigboat will scout for albacore off the cific Northwest and will enter Astoria about July 10. The other jigboat and baitboat will work from central lifornia to Baja California and will return to San Diego.

The R/V Townsend Cromwell with NMFS scientists aboard left Seattle on June 19 and conducted oceanographic udies along 137°30'W longitude in cooperation with the AFRF. The Cromwell also trolled jiglines and caught its rst albacore on June 22 about 500 miles west-northwest of Cape Mendocino. The research vessel worked southward approximately 30°N latitude before heading for Hawaii and the only day of fair fishing was on June 24 in the ea about 600 miles west of Point Arena.

The Oregon Fish Commission is also planning an albacore research and scouting cruise off Oregon. The chartered mmercial vessel will depart Astoria on July 1 and will be at sea for about 10 days.

Sportboats reported albacore catches near the "60-Mile Bank" off San Diego on June 16. Since that time, catches ve been made daily in this general area on fish weighing 5-18 pounds. Fishing was generally slow, but catches re better than one fish per passenger on June 26 and 28. Small, sportboat catches were also made near San Clemente land during this period.

In the second and third weeks of June, commercial catches were reported southwest of the San Juan Seamount to adalupe Island and about 700 miles off Point Arena. Many of the commercial boats were in the San Juan Seamount ea where fishing was spotty but average catches were up to 80 fish per day. By the end of the third week, however, st of the boats in all areas returned to port because of poor fishing or for financial reasons.

A catch of two fish was also reported about 150 miles southwest of Astoria on June 24 in 56°F (13.3°C) sea rface temperature waters.

As of June 29, 1,718 albacore have been caught by the chartered boats and 340 have been tagged and released.

Seasonal warming normally causes sea surface temperatures to increase up to 2°F (1.1°C) during June over most the eastern North Pacific. This year the warming was generally less than normal, except for some areas off Baja lifornia, south of 30°N, and west of San Juan Seamount and Showboat between 30° and 35°N.

Consequently, surface water temperatures in the second half of June were cooler than normal in all but a few attered areas, with negative temperature anomalies exceeding 2°F (1.1°C) off British Columbia, off northern and ntral California, and in the vicinity of Erben Bank.

According to the Long Range Prediction Group of the National Weather Service, the pattern of atmospheric pres- re at upper levels is expected to shift westward in July causing a trough of low pressure to be established over e west coast. This could result in reduced pressure gradients at the surface and a weakening of the north to rthwesterly winds which have prevailed east of about 140°W.

ly 1, 1975

Staff, Albacore Fisheries Program
R. Michael Laurs, Leader

UNITED STATES DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL MARINE FISHERIES SERVICE
Southwest Fisheries Center
La Jolla, California 92038

BULLETIN No. 75-3

1975 ALBACORE SEASON UNDERWAY

A price of $675 per ton of albacore was settled with one west coast cannery on July 8 and another cannery reached ilar agreement with the Western Fishboat Owners Association since that date. Prior to the price settlement only limited commercial fishing activity was reported; however, most of the commercial fleet left port soon after rice settlement and are now at sea.

While fishing reports are still scanty, some catches have been reported from many areas along the Pacific from Guadalupe Island to Grays Harbor. Best fishing appears to have been in the area 70 to 100 miles west and west of Point Arena where boats caught 40 to 100 fish per day in rough seas during the latter part of the second of July. Weather conditions moderated on July 14 and boats averaged 200 fish in this area. Albacore caught this vicinity have been mostly 10 to 12 pounds.

Average catches of 20 to 30 fish per day were made off Morro Bay and small catches were also reported from areas en Cape Mendocino and Grays Harbor. Commercial boats off Baja California caught fish during the second week ly, but fishing became spotty on July 14. A baitboat chartered to the American Fishermen's Research Foundation) also caught 315 and 175 fish east of Guadalupe Island on July 11-12 while jigging and fishing with live bait. urface water temperatures were 64 to 64.5°F (17.8 to 18.1°C) and these fish averaged 10 to 12 pounds.

Except for a couple of days of good fishing by one chartered AFRF boat near Guadalupe Island, catches by three ered vessels were poor. One boat fished from 500 miles west of Eureka to the Columbia River from July 1-6, atches were only 0 to 20 fish per day. This boat, however, did make a catch of 9 fish near the "dumping ds" off the Columbia River on July 6. The remaining two vessels fished from 650 miles off Point Conception to lupe Island before returning to San Diego. One boat returned on July 10 and the other on July 14. A total of fish were caught by the chartered vessels and 567 were tagged. The next AFRF chartered vessels will depart iego and Astoria about July 17. Two boats will scout for albacore off Baja and southern California for the nder of July while the third will be working in Pacific Northwest waters.

A jigboat chartered by the Oregon Fish Commission scouted off the Oregon coast for about 10 days beginning 1. Small catches were made from 60 to 120 miles offshore between Coos Bay and Tillamook.

San Diego sportboats have enjoyed the best sportfishing for albacore in several years. Daily totals ranged up lightly over 1,000 fish and average catches of better than one fish per angler are being made. Good sport- ing catches were reported as close as 7 to 22 miles west of San Diego during part of the first week of July, ver, on July 12 through 14 the sportboat fleet had moved to about 85 miles southwest of San Diego. Albacore caught ne sportboats are predominantly 10 to 14 pounds.

Seasonal warming occurred in most regions offshore western North America during the first 2 weeks in July ing sea surface temperatures to increase by 1 to 2°F (0.6 to 1.1°C). An exception to this warming occurred off- e southern and Baja California out to 125°W or about 500 miles from the coastline where temperatures cooled 2°F (0.6 to 1.1°C) from those during the second half of June.

In spite of this warming, temperatures are still 2 to 4°F (1.1 to 2.2°C) below normal in most offshore regions, ot for scattered areas west of 125°W and within 50 miles of the Washington, Oregon and northern coasts where eratures are slightly above normal. The nearshore warming was caused by decreased northerly winds and upwelling to a westward shift of the eastern Pacific high pressure cell.

According to the Long Range Prediction Group of the National Weather Service, sea level pressures over the ern North Pacific are expected to be above normal from mid-July through mid-August. These conditions, coupled above-normal heating in inland valley and desert regions of the western coastal states, will cause periods of ng north to northwesterly winds and rough seas along the southern Oregon and California coasts. Intense up- ing is also expected offshore the southern and northern and central California coasts.

15, 1975

Staff, Albacore Fisheries Program
R. Michael Laurs, Leader